

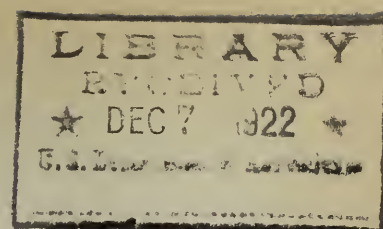
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CEREAL PRODUCTION IN YUGOSLAVIA

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## CEREAL PRODUCTION IN YUGOSLAVIA

The Kingdom of Yugoslavia, officially known as the Kingdom of the Serbs, Croats and Slovenes, was created at the close of the World War by the union of the old kingdoms of Serbia and Montenegro with several former Austro-Hungarian subject states and provinces, of which the most important are Bosnia, Herzegovina, Dalmatia, Croatia, Slavonia and Slovenia.

According to the census taken on January 1, 1921, Yugoslavia had a population of 12,017,323 as compared with a total of 12,715,116 for the separate areas included in the present kingdom as enumerated by the censuses of Austria, Hungary, Serbia and Montenegro in 1910. The population by districts both in 1910 and 1921 is given in the following table:

Table I.  
Population of Yugoslavia  
by Districts

| District                                   | 1910       | 1921       |
|--|------------|------------|
| Old Kingdom of Serbia                      | 2,911,701  | 2,655,078  |
| South Serbia                               | 1,664,807  | 1,474,560  |
| Montenegro                                 | 238,423    | 199,857    |
| Bosnia and Herzegovina                     | 1,931,802  | 1,889,929  |
| Dalmatia                                   | 621,503    | 621,429    |
| Croatia and Slavonia                       | 2,715,237  | 2,613,938  |
| Međimurja                                  | 93,283     | 96,945     |
| Ile de Krk and Kastav                      | ---        | 28,710     |
| Slovenia                                   | 1,092,798  | 1,056,464  |
| Voivodina (Banat                           | 597,139    | 582,540    |
| (Batschka and Baranie                      | 757,223    | 797,873    |
| New Serbia, to be added to Old Serbia      | 55,700     | ---        |
| New Macedonia, to be added to South Serbia | 35,000     | ---        |
| Totals                                     | 12,715,116 | 12,017,323 |
| Drop from Pre-war estimates                |            | 697,793    |



The area of Yugoslavia is 96,062 square miles, or slightly less than that of the State of Oregon. Of this the productive area was 74,116 square miles, or 47,434,154 acres, utilized as follows in 1920, 1921 and 1922:

| Table 2.<br>Productive Area |                   |                   |                   |  |
|-----------------------------|-------------------|-------------------|-------------------|--|
| Manner of Utilization       | : 1920 :<br>Acres | : 1921 :<br>Acres | : 1922 :<br>Acres |  |
| Cultivated land             | : 14,890,510 :    | : 15,481,468 :    | : 15,953,683 :    |  |
| Meadows                     | : 3,731,766 :     | : 3,778,947 :     | : 4,092,824 :     |  |
| Pastures                    | : 6,322,471 :     | : 6,290,788 :     | : 6,894,910 :     |  |
| Vineyards                   | : 427,883 :       | : 424,113 :       | : 458,158 :       |  |
| Orchards                    | : 533,489 :       | : 540,477 :       | : 633,925 :       |  |
| Forests                     | : 18,987,757 :    | : 18,987,757 :    | : 18,987,757 :    |  |
| Marshes                     | : 547,037 :       | : 483,812 :       | : 412,897 :       |  |
| Total Productive Area       | : 45,440,913 :    | : 45,987,362 :    | : 47,434,154 :    |  |

The cultivated land was utilized as follows in 1920 and 1921:

| Table 3<br>Cultivated Land |                   |                   |   |  |
|----------------------------|-------------------|-------------------|---|--|
| Manner of Utilization      | : 1920 :<br>Acres | : 1921 :<br>Acres | : |  |
| Cereals                    | : 10,822,234 :    | : 11,429,554 :    | : |  |
| Legumes                    | : 203,949 :       | : 247,093 :       | : |  |
| Tubers, etc.,              | : 599,017 :       | : 621,958 :       | : |  |
| Flax, Hemp, etc.           | : 198,100 :       | : 219,494 :       | : |  |
| Reeds                      | : 175,797 :       | : 192,476 :       | : |  |
| Forage plants              | : 552,829 :       | : 573,776 :       | : |  |
| Fallow Land                | : 2,338,584 :     | : 2,197,117 :     | : |  |
| Totals                     | : 14,890,510 :    | : 15,481,468 :    | : |  |

The cereal crops are wheat, rye, barley, oats and corn. The acreage harvested for each of these cereals is shown in the following table for 1920 and 1921 as compared with the pre-war average: (1)

(1) The years for which the pre-war average was computed are not definitely stated. It would appear, however, from the text that in some districts the average covers the years 1905-'09. Table 4, however, includes a 1908-12 average for old Serbia. (Editor)

Table 4  
Cereal Acreage (Harvested)

| Cereal                    | Pre-war Average |          | 1920       |          | 1921       |          |
|---------------------------|-----------------|----------|------------|----------|------------|----------|
| Crop                      | Acres           | Per cent | Acres      | Per cent | Acres      | Per cent |
| Wheat                     | 4,005,071       | 33.4     | 3,559,695  | 33.7     | 3,699,248  | 34.2     |
| Rye                       | 735,860         | 6.2      | 577,656    | 5.4      | 562,110    | 5.2      |
| Barley                    | 1,056,503       | 8.8      | 926,450    | 8.8      | 909,723    | 8.4      |
| Oats                      | 1,363,513       | 11.4     | 1,023,737  | 9.7      | 1,002,989  | 9.2      |
| Corn                      | 4,326,177       | 40.2     | 4,485,698  | 42.4     | 4,646,239  | 43.0     |
| Totals                    | 11,983,124      | 100.     | 10,578,236 | 100.     | 10,820,309 | 100.     |
| Drop from Pre-war average |                 |          | 1,409,838  |          | 1,167,815  |          |

At the time of writing this report, September 7, 1922, the Central Bureau of Statistics of the Department of Agriculture at Belgrade had not received a report of the area seeded in Bosnia and Herzegovina for the 1922 crops. The figures for these districts in the following tables are therefore only estimates based on incomplete data. For this reason sub-totals are inserted for the districts reporting officially and the Bosnian estimate added at the end of each table in order to give a national total.

In the following tables the comparisons are between the areas seeded for the crops of 1921 and 1922, whereas, in the preceding table and elsewhere in this report comparisons are made between areas harvested in 1920 and 1921. The pre-war averages are probably in each case for areas harvested. The whole kingdom is subject to disasters of one sort or another: the lowlands to floods, the upland plateaus to droughts and torrential rains, the entire country to hail storms, to insect pests and plant diseases. For these reasons there is considerable difference between the areas seeded and the areas harvested.



Table 5 -- Wheat Areas in Acres.

| District (1): | Pre-war    | For Crop of 1921 |          |            | For Crop of 1922 |          |           |
|---------------|------------|------------------|----------|------------|------------------|----------|-----------|
|               |            | Autumn           | Spring   | Total      | Autumn           | Spring   | Total     |
|               |            | Seeding          | Seeding  |            | Seeding          | Seeding  |           |
|               |            | 1920             | 1921     |            | 1921             | 1922     |           |
| Old Serbia... | 924,315:   | 889,661:         | 35,847:  | 925,508:   | 758,888:         | 67,271:  | 826,159   |
| South Serbia: | 391,000:   | 341,883:         | 19,961:  | 361,844:   | 333,160:         | 28,560:  | 361,720   |
| Croatia.....  | 340,130:   | 828,039:         | 22,528:  | 850,587:   | 857,210:         | 24,278:  | 881,488   |
| Voivodina...  | 1,323,244: | 1,206,021:       | 10,247:  | 1,216,268: | 1,174,286:       | 26,375:  | 1,200,661 |
| Slovenia....  | 141,262:   | 122,596:         | 5,199:   | 127,795:   | 134,158:         | 5,854:   | 140,012   |
| Dalmatia..... | 79,724:    | 39,462:          | 489:     | 39,951:    | 44,945:          | 1,448:   | 46,393    |
| Montenegro... | 15,318:    | 10,749:          | 1,053:   | 11,807:    | 6,494:           | 1,221:   | 7,715     |
| Sub-totals... | 3,720,053: | 3,438,431:       | 95,329:  | 3,533,760: | 3,309,141:       | 155,007: | 3,464,148 |
|               |            |                  |          |            |                  | (2)      |           |
| Bosnia.....   | 261,840:   | 243,861:         | 37,527:  | 281,388:   |                  |          | 284,202   |
| Totals.....   | 3,981,893: | 3,682,292:       | 132,856: | 3,815,148: |                  |          | 3,748,350 |
| Drop from     |            |                  |          |            |                  |          |           |
| pre-war av-   |            |                  |          |            |                  |          |           |
| erage.....    |            |                  |          | 166,745:   |                  |          | 233,543   |

(1) In this and subsequent tables, Old Serbia includes New Serbia, South Serbia includes New Macedonia, Croatia includes Slavonia and Medjmuria and Bosnia includes Herzegovina.

(2) Estimates based on information furnished by the Yugoslavian Department of Agriculture.

The decrease in the autumn seeding of wheat in 1921 from 1920 amounting to some 130,000 acres was due to an early fall of snow in the southern districts particularly in Old Serbia. It will be noted that in these districts there was a larger seeding of spring wheat than in the preceding year, but not enough to compensate for the drop in winter wheat acreage.

The statistics of rye production for Yugoslavia are complicated by the fact that in some parts of the country wheat and rye are sown together. This crop is known as "double rye" and is entirely used for home consumption. In the pre-war averages "double rye" is included with rye, but in some of the recent figures it is not certain whether it is included or not.



Table 6 -- Rye Areas in Acres.

| District                     | Pre-war<br>Average<br>Total | For Crop of 1921 |         |          | For Crop of 1922 |         |            |
|------------------------------|-----------------------------|------------------|---------|----------|------------------|---------|------------|
|                              |                             | Autumn           | Spring  | Total    | Autumn           | Spring  | Total      |
|                              |                             | Seeding          | Seeding |          | Seeding          | Seeding |            |
|                              |                             | 1920             | 1921    |          | 1921             | 1922    |            |
| Old Serbia ...               | 117,627:                    | 56,709           | 28,730  | 85,439:  | 54,656:          | 38,083: | 92,739     |
| South Serbia...              | 203,240:                    | 126,414          | 20,700  | 147,114: | 133,071:         | 23,153: | 156,224    |
| Croatia .....                | 193,511:                    | 95,470           | 6,746   | 102,216: | 95,188:          | 8,562:  | 103,750    |
| Voivodina .....              | 53,186:                     | 29,103           | 1,379   | 30,482:  | 21,653:          | 1,656:  | 23,309     |
| Slovenia .....               | 92,660:                     | 66,378           | 5,735   | 72,113:  | 64,513:          | 6,506:  | 71,019     |
| Dalmatia .....               | 18,137:                     | 5,127            | 185     | 5,312:   | 6,321:           | 378:    | 6,699      |
| Montenegro ...               | 8,490:                      | 2,585            | 996     | 3,581:   | 2,560:           | 1,371:  | 3,931      |
| Sub-totals ...               | 686,851:                    | 381,786          | 64,471  | 446,257: | 377,962:         | 79,709: | 457,671    |
| Bosnia .....                 | 45,410:                     | 22,096           | 6,402   | 28,498:  | :                | :       | 30,976 (1) |
| Totals for rye:              | 732,261:                    | 403,882          | 70,873  | 474,755: | :                | :       | 488,647    |
| "Double Rye"...              | :                           | :                | :       | 102,079: | :                | :       | 111,610    |
| Totals .....                 | 732,261:                    | :                | :       | 576,834: | :                | :       | 600,257    |
| Drop from pre-war average... | :                           | :                | :       | 155,427: | :                | :       | 132,004    |

(1) Estimated.

Table 7 -- Barley Areas in Acres.

| District                        | Pre-war<br>Average<br>Total | For Crop of 1921 |         |          | For Crop of 1922 |          |             |
|---------------------------------|-----------------------------|------------------|---------|----------|------------------|----------|-------------|
|                                 |                             | Autumn           | Spring  | Total    | Autumn           | Spring   | Total       |
|                                 |                             | Seeding          | Seeding |          | Seeding          | Seeding  |             |
|                                 |                             | 1920             | 1921    |          | 1921             | 1922     |             |
| Old Serbia ...                  | 264,792:                    | 112,445          | 48,864  | 161,309: | 93,856:          | 63,865:  | 157,721     |
| South Serbia...                 | 190,267:                    | 137,385          | 65,432  | 202,817: | 154,393:         | 76,018:  | 230,411     |
| Croatia .....                   | 161,171:                    | 94,721           | 59,353  | 154,074: | 91,491:          | 60,782:  | 152,273     |
| Voivodina .....                 | 115,210:                    | 78,835           | 33,334  | 112,169: | 63,608:          | 44,562:  | 108,170     |
| Slovenia .....                  | 44,631:                     | 34,339           | 15,103  | 49,442:  | 37,972:          | 10,136:  | 48,108      |
| Dalmatia .....                  | 53,000:                     | 45,069           | 9,439   | 54,558:  | 45,990:          | 10,504:  | 56,494      |
| Montenegro .....                | 8,154:                      | 1,856            | 4,581   | 6,437:   | 492:             | 4,566:   | 5,058       |
| Sub-Totals ...                  | 837,225:                    | 504,650          | 236,156 | 740,806: | 487,802:         | 270,433: | 758,235     |
| Bosnia .....                    | 220,907:                    | 44,384           | 151,808 | 196,192: | :                | :        | 200,116 (1) |
| Totals .....                    | 1,058,132:                  | 549,034          | 387,964 | 936,998: | :                | :        | 958,351     |
| Drop from pre-war average ..... | :                           | :                | :       | 121,134: | :                | :        | 99,781      |

(1) Estimated.

Table 8 -- Oats, Areas in Acres.

| District                  | Pre-war Average | 1921      | 1922        |
|---------------------------|-----------------|-----------|-------------|
| Old Serbia                | 255,084         | 188,031   | 195,639     |
| South Serbia              | 148,260         | 98,017    | 96,806      |
| Croatia                   | 255,380         | 254,530   | 243,228     |
| Voivodina                 | 270,200         | 218,132   | 186,570     |
| Slovenia                  | 72,482          | 63,411    | 55,921      |
| Dalmatia                  | 9,998           | 3,580     | 3,808       |
| Montenegro                | 2,224           | 1,124     | 1,534       |
| Sub-totals                | 1,113,628       | 826,825   | 783,506     |
| Bosnia                    | 243,836         | 211,960   | 201,362 (1) |
| Totals                    | 1,357,464       | 1,038,785 | 984,868     |
| Drop from pre-war average |                 | 318,679   | 372,596     |

(1) Estimated.

The seeding of oats is 54,000 acres below the 1921 seeding and 373,000 acres below the average pre-war seeding. This drop in oats is attributable chiefly to the lessening influence of the great landlords on the character of the crops sown; oats being demanded by the lords for feeding horses and for export. It will be noted that in Old Serbia where the feudal system had been abolished before the war, there is an increase in the acreage in oats in 1922 over that of 1921.



Table 9 -- Corn, Areas in Acres

| District                             | Pre-war Average | 1921      | 1922        |
|--------------------------------------|-----------------|-----------|-------------|
| Old Serbia .....                     | 1,384,736       | 1,248,821 | 1,322,526   |
| South Serbia .....                   | 301,709         | 243,752   | 261,647     |
| Croatia .....                        | 1,055,273       | 1,146,771 | 1,185,906   |
| Voivodina .....                      | 1,201,141       | 1,390,728 | 1,469,101   |
| Slovenia .....                       | 86,764          | 95,015    | 82,571      |
| Dalmatia .....                       | 100,822         | 78,180    | 92,700      |
| Montenegro .....                     | 34,594          | 24,569    | 15,407      |
| Sub-Totals .....                     | 4,165,039       | 4,227,836 | 4,427,858   |
| Bosnia .....                         | 621,227         | 599,783   | 629,771 (1) |
| Totals .....                         | 4,786,266       | 4,827,619 | 5,057,629   |
| Increase over<br>pre-war average ... |                 | 41,353    | 271,363     |

(1) Estimated.

There has been a steady increase in the areas planted to corn since 1920, except in Slovenia, where corn does not thrive particularly well, and in Montenegro, where there has been a general slump in cereal cultivation. This increase is particularly noticeable in Croatia and Voivodina, the great wheat-growing districts. In 1922, a sharp increase in corn planting was to be expected to counterbalance the shortage of the fall seeding of wheat in 1921; nevertheless there is an indication of permanency in this increase of corn area at the expense of the other cereals. In Croatia and Voivodina the large estates are being broken up and divided among the peasants, who are greatly increasing the numbers of their live stock, especially swine, thereby increasing the demand for corn for stock feeding. This seems to be the general tendency throughout the upper Danube basin, including Austria and Hungary. This tendency is shown in the following table, which is a summary of the five preceding tables.

Table 10 -- Cereal Acreage (Seeded)

| Cereal Crop    | Pre-war Average |       | 1921       |       | 1922       |       |
|----------------|-----------------|-------|------------|-------|------------|-------|
|                | Acres           | Per   | Acres      | Per   | Acres      | Per   |
|                |                 | cent  |            | cent  |            | cent  |
| Wheat .....    | 3,981,893       | 33.4  | 3,815,148  | 34.1  | 3,748,350  | 33.0  |
| Rye .....      | 732,261         | 6.1   | 576,834    | 5.2   | 600,257    | 5.3   |
| Bread Cereals: |                 | 39.5  |            | 39.3  |            | 38.3  |
| Barley .....   | 1,058,132       | 8.9   | 936,998    | 8.4   | 958,351    | 8.4   |
| Oats .....     | 1,357,464       | 11.4  | 1,038,785  | 9.3   | 984,868    | 8.7   |
| Corn .....     | 4,786,266       | 40.2  | 4,827,619  | 43.1  | 5,057,829  | 44.6  |
|                | (1)             |       |            |       |            |       |
| Totals ....    | 11,916,016      | 100.0 | 11,195,384 | 100.0 | 11,349,455 | 100.0 |

(1) The difference between the pre-war total and the total given in the table on page 3 is due to the use of the 1905-09 average for Old Serbia, whereas in the first table the 1908-12 average was used.

Approximate Yields for 1922.

The Yugoslavian Department of Agriculture has released only the data concerning areas seeded, but from general information furnished by them, the following unofficial estimate is made:

Table 11 - Production Estimate for 1922.

| Cereal Crop     | Area seeded, acres |   | Area destroyed, acres |   | Area harvested, acres |   | Estimated production, per acre, bushels | Total estimated yield in thousands of bushels |
|-----------------|--------------------|---|-----------------------|---|-----------------------|---|---|---|
|                 | ed, acres          | : | destroyed, acres      | : | harvested, acres      | : | bushels                                 | bushels                                       |
|                 |                    |   |                       |   |                       |   |   |   |
| Winter wheat... | 3,556,242          | : | 103,000               | : | 3,453,000             | : | 13.5                                    | 46,600  |
| Spring wheat... | 192,108            | : | 8,000                 | : | 184,000               | : | 9.                                      | 1,650   |
| Winter rye ...  | 401,544            | : | 8,500                 | : | 393,000               | : | 13.                                     | 5,100   |
| Spring rye ...  | 37,103             | : | 3,500                 | : | 83,500                | : | 9.5                                     | 800   |
| "Double rye"... | 111,610            | : | 3,000                 | : | 108,500               | : | 11.                                     | 1,200   |
| Winter barley.. | 534,716            | : | 15,800                | : | 519,000               | : | 15.                                     | 7,750   |
| Spring barley.. | 423,635            | : | 16,000                | : | 407,500               | : | 13.                                     | 5,300   |
| Oats .....      | 984,868            | : | 31,000                | : | 954,000               | : | 17.                                     | 16,200  |
| Corn .....      | 5,057,629          | : | 271,000               | : | 4,786,500             | : | 12.                                     | 57,400  |
|                 |                    | : |                       | : |                       | : |   |   |
| Totals ....     | 11,349,455         | : | 459,800               | : | 10,889,000            | : |   | 142,000                                       |



This cereal production as shown from the following comparative table is 22,000,000 bushels below that of 1921 and nearly 100,000,000 bushels below the pre-war average.

Table 12  
Cereal Production - Yugoslavia  
Thousands of bushels

| Cereal Crop                        | Pre-war<br>Average | 1920    | 1921    | 1922    |
|------------------------------------|--------------------|---------|---------|---------|
| Wheat (1) .....                    | 63,663             | 43,011  | 51,809  | 48,250  |
| Rye .....                          | 10,143             | 6,507   | 6,263   | 7,100   |
| Barley .....                       | 20,229             | 11,699  | 13,378  | 13,050  |
| Oats .....                         | 33,516             | 22,242  | 18,907  | 16,200  |
| Corn .....                         | 111,897            | 101,136 | 73,788  | 57,400  |
| Totals .....                       | 239,448            | 184,595 | 164,145 | 142,000 |
| Drop from pre-war<br>Average ..... |                    | 54,853  | 75,303  | 97,000  |

- (1) Elsewhere in this report the combined wheat and rye pre-war average production is given as 73,730,000 bushels, and the 1921 production as 58,786 bushels.

Weather conditions in the upper Danube Basin have been very unfavorable for cereal crops in 1922, even more so than in 1921, which was considered a bad year for agriculture. Western Croatia, Bosnia, Herzegovina, Montenegro and Dalmatia have all suffered droughts that have damaged spring-sown cereals, especially corn. Corn has suffered not only in the Western districts but quite generally also in Old Serbia and in the uplands of Macedonia. Winter grain, however, is coming through in better shape than the spring crops, but is generally yielding less per acre than a year ago.

In 1921 the Institute of Agriculture at Rome reported the exportation of the five cereals from Yugoslavia at 480,561 short tons (recalculating flour to grain by the factor 0.75). This year the corresponding estimate is

165,345 tons. In view of the decreased production in 1922 of 606,000 tons below the crop of 1921, it is questionable whether the people of Yugoslavia will allow their food and forage rations to be cut by exports to this extent. It is estimated that there will be enough grain to feed the human population, but it is feared that livestock will suffer during the coming winter in many parts of the kingdom.

The present internal grain trade of Yugoslavia is somewhat artificial due to the domination of former Hungarian and Austrian commercial influence in the district of Voivodina, the district having the greatest grain surplus. If the needs of the country's own population were supplied in the same degree as before the war there would be large imports of grain and no exports. But these needs are not being supplied because of difficulties of transport, lack of an internal distributing organization, and the superior organization in the surplus districts of the banks which concentrate grain for export. They do this because they are already organized to do it. The trade is profitable and they know the credit standing of their buyers. However, all this must be and will be reorganized in time. This "forced export" will be decreased, and the shipments abroad will more nearly approximate the balance between the yearly production and the food and other requirements of the people. The annual exportation of grain from Yugoslavia will average about one to two hundred thousand tons when conditions become settled. In good years it may rise to three or more hundred thousand tons and in poor years it may fall to zero.

Since the war the peasants have made a great effort to increase their real wealth rather than to accumulate paper money which is steadily depreciating. Livestock statistics for the area embracing the Old Kingdom of Serbia show that there are more cattle in that territory today than in 1910. Swine



also have nearly reached their pre-war numbers. This means a demand for feeding stuffs for live stock and consequently a preference for increasing corn and forage areas, rather than for putting land into cash crops - especially wheat, rye and oats. This same tendency is shown in all the countries of the Danube basin. It will probably have a more or less permanent effect: that is, the wheat areas will probably not return to their pre-war normal. This tendency is a result of the land reform which has abolished the feudal system and given the land of the great estates to the peasants. In Yugoslavia these reforms had been effected before the war in the independent districts, and were therefore only necessary in the former Austrian and Hungarian subject states of Croatia, Slavonia, Voivodina and to some extent in Bosnia. Thus since the changes in the agricultural system have been less, this tendency towards increasing the number of livestock, while marked, is less apparent in Yugoslavia than in Roumania to the East, where changes in land tenure have been more marked.

On the whole, aside from the untoward conditions of drought and early snow, Yugoslavia is recovering her normal agricultural status and it will only be a very short time before the kingdom will be producing as much grain as in the years before the war, except as modified by the influences just described.

#### The Wheat and Rye Balance

##### Production Less Food and Seed Requirements.

The food requirements of the population of Yugoslavia differ greatly according to locality and religion. In the Old Kingdom, the Serbs seldom eat wheat or rye bread except on holidays, their diet consisting almost exclusively of corn. In the North the Slovenes eat almost no corn, their diet being mostly rye and wheat. The Austrian norm for wheat and rye food consumption was 7.07 bushels (191 kilograms) per capita per year. This norm was employed by the Austrian government before the war in calculating the food requirements of the

Slovenes and the Dalmatians. The Hungarian norm was 6.13 bushels (167 kilograms) per capita per year. This norm was employed by the Hungarian government in calculating the food requirements of Croatia - Slavonia; and now applies to all the territory ceded by Hungary to Yugoslavia. Based on Hungarian estimates the per capita consumption of wheat and rye in Bosnia-Herzegovina was about 2.80 bushels (75 kilograms) per year, which may also be considered as the norm for South Serbia. For the Old Kingdom of Serbia it was 2.25 bushels (61 kilograms). In Montenegro, based upon Hungarian data, the pre-war consumption of wheat and rye was about 4.07 bushels (110 kilograms) per capita per year. Naturally the war placed most of these peoples on very short rations even to the point of starvation in some places. Therefore at the present time in certain districts the people consume less than these pre-war norms and still are better fed than during the time when the country was devastated by hostile forces. This is particularly true of the South: - Old Serbia, Macedonia, Montenegro and the territory between. It also applies to certain of the deficit districts which, during the war, were cut off from their usual supplies of food, although not actually invaded, as, for example, Bosnia.

Employing the pre-war norms of Austria and Hungary and the Serbian norm calculated from the statistics of 1905-09, and estimating the South Serbian norm at 2.80 bushels, we have the following hypothetical pre-war wheat and rye balance.



Table 13

Pre-war Wheat and Rye Balance  
(Thousands of Bushels)

| District                              | Population<br>in 1910 | Norm per<br>capita<br>Food Re-<br>quirement | Production of Wheat and Rye |        | Food<br>Requirements:<br>Population x:<br>Norm | Surplus<br>or<br>Deficit |
|---------------------------------------|-----------------------|---|-----------------------------|--------|--|--------------------------|
|                                       |                       |   | Gross                       | Seed   | Net  |                          |
| (1)<br>Old Kingdom                    | 2,967,401             | 2.25  | 13,363                      | 3,120  | 10,243   | 6,677 + 3,566            |
| (2)<br>South Serbia                   | 1,699,807             | 2.77  | 7,172                       | 1,780  | 5,392  | 4,708 + 684              |
| (3)<br>Voivodina                      | 1,354,862             | 6.13  | 27,754                      | 4,137  | 23,617   | 8,373 + 15,244           |
| Sub-total and<br>Total Excess -       | 6,022,070             |   | 48,289                      | 9,037  | 39,252   | 19,758 + 19,494          |
| Slovenia                              | 1,092,798             | 7.07  | 3,286                       | 701    | 2,585  | 7,726 - 5,141            |
| Montenegro                            | 238,423               | 4.07  | 259                         | 71     | 188  | 970 - 782                |
| Dalmatia                              | 621,503               | 7.07  | 1,256                       | 293    | 963  | 4,394 - 3,431            |
| Croatia                               | 2,808,520             | 6.18  | 16,904                      | 3,096  | 13,808   | 17,357 - 3,549           |
| Bosnia                                | 1,931,802             | 2.77  | 3,736                       | 920    | 2,816  | 5,351 - 2,535            |
| Sub-total and<br>Total deficit        | 6,693,046             |   | 25,441                      | 5,081  | 20,360   | 35,798 - 15,438          |
| Total for country<br>and net excess - | 12,715,116            |   | 73,730                      | 14,118 | 59,612   | 55,556 + 4,056           |

- (1) Including New Serbia,  
 (2) Including New Macedonia,  
 (3) Banat, Batschka and Baranie,  
 (4) Including Slavonia and Medjmuria,  
 (5) Including Herzegovina.

Editor's Note:- In the original report the quantities of wheat and rye combined are stated in quintals, but the relative proportions of the two grains are not stated. These proportions naturally differ in various parts of Yugoslavia, and probably also as between production and consumption. In the country as a whole the production of rye as compared with the production of wheat is roughly as one to seven. In reducing to bushels there would be 3.6745 bushels of wheat to one quintal and 3.9368 bushels of rye to one quintal. Since the statistics at best are subject to a large margin of error it was not thought advisable to attempt any great refinement of method in the process of conversion of quintals to bushels. For simplicity, therefore, the factor 3.7 was used in this and subsequent tables where wheat and rye were combined in the original figures. The resulting balance in bushels is certainly accurate at least within the margin of error in the original data, and any possible additional error as a result of conversion does not affect the argument of the author of the report.

These figures would indicate that under pre-war conditions there would have been available for export in the present area of Yugoslavia a surplus of 4,000,000 bushels of wheat and rye, or assuming that the export surplus would be in the same proportion as the production of the two cereals, about 3,500,000 bushels of wheat and 500,000 bushels of rye. The actual pre-war exports of the two cereals from the Old Kingdom of Serbia averaged (1904-09) 3,700,000 bushels. It appears, therefore, that the acquisition of the highly productive provinces of Banat, Batschka and Baranie (combined as Voivodina) from Hungary has not given Yugoslavia the possibility of producing an exportable surplus much greater than the pre-war surplus of the Old Kingdom. The explanation is that Yugoslavia acquired at the same time large deficit districts which formerly drew their food supplies from Hungary through the agency of merchants (usually banks) in Vienna and Budapest. These districts must now be supplied directly from the newly acquired surplus districts.



There are many sources of error in the table above and the final figure for the surplus may be too low. It is certain that in good years, the exportable surplus probably rose to two and even more times the amount indicated. However, the changes in land tenure in Voivodina and Croatia which may permanently reduce the production of wheat will tend to offset any possible under estimate of the surplus.

Table 14 corresponding to Table 13 gives the hypothetical wheat and rye balance for Yugoslavia in 1921. This table is inserted here for better comparison with pre-war conditions, but in order to understand the differences between the two tables it will be necessary to consider in some detail in the following pages the different and rapidly changing conditions in the separate districts:

#### The Original Kingdom of Serbia

In the old Kingdom of Serbia before the war, the peasants were in actual possession of the land; that is, there were no large estates. So any recent changes in agricultural conditions are almost entirely due to the disturbing factor of the war. Recent statistics show that there has been practically no change in the acreage planted to corn; there is a slight decrease in the seeding of oats, barley and rye, and a slight decrease, although proportionately an increase, in the wheat acreage. The following table shows the areas harvested for each of the five principal cereals for 1905-09 and for 1920 and 1921.

Table 14  
Wheat and Rye Balance  
1921

| District   |     | Thousands of bushels |   |  |        | Food   |   | Surplus or Deficit |
|--|-----|----------------------|---|--|--------|--------|---|--------------------|
|  |     | Population<br>1921   | Norm: per capita<br>: food<br>: requirement | Production of Wheat and Rye<br>: Gross | Seed   | Net    | : Requirement<br>: Population<br>: x norm |                    |
| Old Kingdom  | (1) | 2,655,078            | 2.25  | 11,211                                 | 3,056  | 8,155  | 5,974                                     | + 2,181            |
| South Serbia   | (2) | 1,474,560            | 2.77  | 5,997                                  | 1,545  | 4,452  | 4,084                                     | + 368              |
| Vojvodina  | (3) | 1,380,413            | 4.51  | 13,735                                 | 3,750  | 9,985  | 6,226                                     | + 3,759            |
| Sub-total and Total Excess -   |     | 5,510,051            |   | 30,943                                 | 8,351  | 22,592 | 16,284                                    | + 6,308            |
| Slovenia   |     | 1,056,464            | 6.18  | 3,560                                  | 610    | 2,950  | 6,529                                     | - 3,579            |
| Montenegro   |     | 199,857              | 2.77  | 176                                    | 47     | 129    | 554                                       | - 425              |
| Dalmatia   | (4) | 621,429              | 6.18  | 845                                    | 199    | 646    | 3,840                                     | - 3,194            |
| Croatia  | (4) | 2,710,883            | 6.18  | 19,249                                 | 2,984  | 16,265 | 16,753                                    | - 488              |
| Bosnia   | (5) | 1,889,929            | 2.77  | 4,013                                  | 985    | 3,028  | 5,235                                     | - 2,207            |
| Sub-total and Total Deficit  |     | 6,478,562            |   | 27,843                                 | 4,825  | 23,018 | 32,911                                    | - 9,893            |
| Total for country (6) and Net Deficit -                              |     | 11,988,613           |   | 58,786                                 | 13,176 | 45,610 | 49,195                                    | - 3,585            |
| Less $\Phi$ Deficit in Dalmatia -                                    |     |                      |   |  |        |        |   | - 1,597            |
| Deficit Theoretical -  |     |                      |   |  |        |        |   | - 1,988            |
| (1) Including New Serbia,  |     |                      |   |  |        |        |   |                    |
| (2) Including New Macedonia,   |     |                      |   |  |        |        |   |                    |
| (3) Banat, Batschka and Baranie,                                     |     |                      |   |  |        |        |   |                    |
| (4) Including Slavonia and Medjumura,                                |     |                      |   |  |        |        |   |                    |
| (5) Including Herzegovina,   |     |                      |   |  |        |        |   |                    |
| (6) Ile de Krk and Kastav, population 28, 710 not included in total. |     |                      |   |  |        |        |   |                    |



Table 15 -- Cereal Acreage - Old Serbia.

| Cereal<br>Crop               | 1905-09   |          | 1920      |          | 1921      |          |
|------------------------------|-----------|----------|-----------|----------|-----------|----------|
|                              | Acres     | Per cent | Acres     | Per cent | Acres     | Per cent |
| Wheat...                     | 924,315   | 31.4     | 817,642   | 34.4     | 902,550   | 35.5     |
| Rye .....                    | 117,627   | 4.0      | 88,724    | 3.7      | 87,224    | 3.4      |
| Barley...                    | 264,792   | 9.0      | 150,682   | 6.3      | 157,566   | 6.2      |
| Oats ...                     | 255,084   | 8.7      | 167,709   | 7.1      | 180,324   | 7.1      |
| Corn.....                    | 1,384,736 | 47.0     | 1,152,929 | 48.5     | 1,211,573 | 47.7     |
| Totals...                    | 2,946,554 | 100.0    | 2,377,686 | 100.0    | 2,539,237 | 100.0    |
| Drop from prewar average.... |           |          | 568,868   |          | 407,317   |          |

This decrease in production is due to lack of man power, a scarcity of draft animals, and a shortage of farm implements. Using the pre-war norm there was in 1921 a surplus of about 2,000,000 bushels of wheat and rye and it seems to be only a question of time before the sturdy Serbs, even with their reduced population will recover their pre-war position in cereal production.

#### South Serbia.

This territory was liberated from the Turks in 1913. The population is of Serbian blood and speech, but largely Mohammedan in religion. Under Turkish rule the land was held under a system of feudal tenure. Bondage was hereditary and it was almost impossible for any individual to escape from its conditions. The serf was obliged to pay to his "beg" or lord, a third, a fourth or a fifth of his crops, but his occupancy of the land was secure since the "beg" seldom engaged in agriculture himself, and was content to collect his dues. In 1919 an agreement was made with the

feudal lords of Serbian blood by which the serfs were to continue to pay their dues, as heretofore, but were to be reimbursed by the State. However, most of the serfs, having awakened to the strength of their position, refused to pay any dues whatsoever, and have simply remained in possession of the land which they were accustomed to cultivate.

In the following table the column headed "pre-war average" is an approximation based upon the assumption that the agricultural practice of South Serbia closely approached that of Old Serbia. It is improbable that there have been any marked changes in the agriculture of this district since the land reform produced no changes in the relative amounts of land operated by the peasants.

Table 16 -- Cereal Acreage - South Serbia

| Cereal<br>Crop                  | Pre-war Average |          | 1920      |          | 1921      |          |
|---------------------------------|-----------------|----------|-----------|----------|-----------|----------|
|                                 | Acres           | Per cent | Acres     | Per cent | Acres     | Per cent |
| Wheat .....                     | 391,060         | 31.7     | 333,268   | 33.5     | 349,031   | 34.3     |
| Rye .....                       | 203,240         | 16.5     | 135,149   | 13.4     | 139,646   | 13.7     |
| Barley .....                    | 190,267         | 15.4     | 189,511   | 18.8     | 197,191   | 19.4     |
| Oats .....                      | 143,260         | 12.0     | 102,302   | 10.1     | 94,115    | 9.2      |
| Corn .....                      | 301,709         | 24.4     | 244,083   | 24.2     | 239,077   | 23.5     |
| Totals .....                    | 1,234,536       | 100.0    | 1,009,313 | 100.0    | 1,019,060 | 100.0    |
| Drop from pre-war average ..... |                 |          | 225,223   |          | 215,476   |          |

It will be noted that corn is produced much less extensively than in the Old Kingdom and that rye occupies a much more important place in the agriculture of this district than in any other part of Yugoslavia. Wheat and rye form a greater part of the diet than in Old Serbia, and in the absence of



accurate data it has been assumed that the Mohammedans of South Serbia consume about the same amounts of wheat and rye as the Mohammedans of Bosnia, thus giving a per capita consumption of 2.77 bushels per year. On the basis of the actual net production and the use of this norm the theoretical surplus for export was about 367,000 bushels in 1921. Such a small surplus scattered through Macedonia and the mountains of the western part of the district is difficult to collect for export and the greater part necessarily remained in the country. It may be noted, however, that in 1921 the exports to Greece were:- Wheat and flour in terms of wheat, 92,000 bushels; oats, 200,000 bushels; and corn 118,000 bushels. The diminished production of cereals is accounted for as in Old Serbia by the shortage of labor, animals and machinery. It is, however, probable that this district will soon recover and have an appreciable surplus of wheat and rye either for export or for shipment to the deficit areas of Yugoslavia. This surplus will probably amount to from 740,000 to 920,000 bushels.

#### Montenegro.

The political, social and economic conditions in Montenegro were much the same as in South Serbia and Bosnia. The land was held by the feudal lords of the old Turkish regime. The greater number of these lords were of Serbian blood - descendants of the Serbian nobles who, when the Turks conquered the country, gave their allegiance to the Sultan in order to hold their estates. After a time the Serbian tribesmen were reduced to serfdom. In return for the privilege of working their land holding, the serf paid dues to the "Beg" or lord. In 1919 some of the lords refused to take dues, leaving the peasants in full possession of the land. The rest of the

peasants refused to pay dues and retained the plots of land which they had been holding from the lord under the old regime. Thus the land reform was simply and effectually accomplished, without greatly affecting the agricultural customs and habits of the country as far as concerned the character of the crops cultivated and the ratios in which they were seeded, although the total area cultivated has dropped.

Hungarian records show that in 1912, the last normal pre-war year, Montenegro imported cereals as follows: Oats, 584,764 bushels; corn, 308,173 bushels; rice, 296,200 bushels; flour, 62,543 barrels, equivalent to 272,094 bushels of wheat.<sup>(1)</sup> The domestic production in 1913 was estimated at 250,000 bushels of wheat, 200,000 bushels of oats and 1,550,000 bushels of corn. Aside from the annual deficit of some 700,000 bushels of wheat and rye as indicated in Table 13, there was a corn deficit of about 2,500,000 bushels.

The census of 1921 shows that the population of Montenegro had been reduced to 200,000. The Montenegrins have suffered great privations and have been on short rations during and since the war period. It is estimated that their wheat and rye consumption cannot have exceeded that of South Serbia, Bosnia and Herzegovina and was probably lower, but for the purposes of the comparison in Table 14 it is placed at 2.77 bushels per capita per year for the post-war period.

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(1) In the original report it is stated that 556,040 quintals of flour were imported. This would be equivalent to 625,431 barrels or, in terms of wheat 2,720,940 bushels. In view of the statement that the total wheat and rye requirement is 550,000 bushels and the deficit 425,000 bushels, it is assumed that there is an error of a decimal place in the original figure. - Editor.

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The Montenegrins are corn eaters to a greater extent than are the Bosnians and it is probable that they have substituted corn for wheat and rye to a considerable extent in recent years. Even so, they do not produce enough corn for their requirements and were on short rations last year even as regards corn. In a deficit district, in time of a bad harvest, the theoretical deficit is never imported. The population, especially the proletariat, eat other coarser foods, going short on the more expensive bread cereals.

In the following table the areas in the column headed "pre-war average" are purely hypothetical, estimated from data collected by the Yugoslavian government in 1920 and 1921.

| Table 17                    |                 |          |        |          |        |          |  |
|-----------------------------|-----------------|----------|--------|----------|--------|----------|--|
| Cereal Acreage - Montenegro |                 |          |        |          |        |          |  |
| Cereal Crop                 | Pre-war average |          | 1920   |          | 1921   |          |  |
|                             | Acres           | Per cent | Acres  | Per cent | Acres  | Per cent |  |
| Wheat                       | 15,300          | 22.2     | 13,250 | 23.3     | 11,211 | 24.4     |  |
| Rye                         | 8,500           | 12.4     | 5,908  | 10.4     | 3,412  | 7.4      |  |
| Barley                      | 8,200           | 11.9     | 8,295  | 14.6     | 6,170  | 13.4     |  |
| Oats                        | 2,200           | 3.2      | 1,517  | 2.7      | 1,102  | 2.4      |  |
| Corn                        | 34,600          | 50.3     | 27,922 | 49.1     | 24,092 | 52.4     |  |
| Total                       | 68,800          | 100.     | 56,892 | 100.     | 45,987 | 100.     |  |
| Drop from pre-war Average   |                 |          | 11,908 |          | 22,813 |          |  |

The most significant feature of this table is the indication that the mountaineers of Montenegro harvested far smaller acreages of all important cereals than in 1920. This drop has little effect on the situation in Yugoslavia as a whole, but it is serious for the little mountain district where the impoverished people can ill afford to buy grain from the outside. It is impossible to foresee what will be the future tendencies of Montenegrin agriculture.

#### Bosnia and Herzegovina

During the war these two districts were cut off from their normal grain supply which in pre-war years came from Hungary <sup>(1)</sup> through Austrian Merchants. An effort was undoubtedly made during the war to supply their

(1) Probably from the districts now annexed to Yugoslavia as Voivodina.

own requirements. The seeding of wheat and rye in particular was increased because of the high prices which bread cereals brought in the cities. This condition continued through 1920, to the extent that in that year the areas of wheat and rye harvested were 6.4 per cent above the pre-war average. The corn area, however, was correspondingly decreased. But in 1921, probably as the result of the reform in land tenure, the harvest of bread cereals was much reduced, and that of corn increased. These changes will be noted in Table 18:

| Table 18                                |                 |          |           |          |           |          |  |
|---|-----------------|----------|-----------|----------|-----------|----------|--|
| Cereal Acreage - Bosnia and Herzegovina |                 |          |           |          |           |          |  |
| Cereal Crop:                            | Pre-war Average |          | 1920      |          | 1921      |          |  |
|   | Acres           | Per cent | Acres     | Per cent | Acres     | Per cent |  |
| Wheat                                   | 261,840         | 18.8     | 331,794   | 24.2     | 266,396   | 21.8     |  |
| Rye                                     | 45,410          | 3.3      | 58,607    | 4.3      | 26,912    | 2.2      |  |
| Barley                                  | 220,907         | 15.9     | 225,563   | 16.5     | 186,837   | 15.3     |  |
| Oats                                    | 243,836         | 17.5     | 232,200   | 17.      | 203,712   | 16.7     |  |
| Corn                                    | 621,227         | 44.6     | 521,391   | 38.1     | 537,472   | 44.      |  |
| Totals                                  | 1,393,220       | 100.     | 1,369,555 | 100.     | 1,221,329 | 100.     |  |
| Drop from pre-war average               |                 |          | 23,665    |          | 171,891   |          |  |

Previous to the world war about one-third of the arable land and a large part of the meadow and forest land in Bosnia and Herzegovina was still held in feudal tenure. The official measures of land reform began with an order of July 21, 1919, which directed the registration of the serfs in the land books. A second order of May 12, 1921, set aside the sum of 255,000,000 dinars (\$49,215,000, normal exchange) for the compensation of the feudal lords. By these measures, 111,000 families of 650,000 persons were freed from serfdom and placed in possession of a total of 1,915,601 acres of land.



Aside from these hereditary serfs or bondsmen, there were under the old regime bondsmen of another kind, who held land from the lords under contract. About 546,000 acres were so held. These quasi-serfs were also freed and, where they were bound by contracts running only ten years, were permitted to buy directly the lands they had been cultivating. In other cases where the contracts ran for forty years or more the state bought the lands on behalf of the peasants. Still other large estates were dealt with on the same terms as in other districts of Yugoslavia.

The imports and exports of these two districts were in 1913:

| Table 19   |         |   |         |
|--|---------|---|---------|
| Food Imports and Exports: Bosnia and Herzegovina |         |   |         |
| 1913   |         |   |         |
| Foodstuffs - in thousands of bushels :           | Imports | : | Exports |
| Wheat  | 590     | : | 110     |
| Wheat flour (in terms of wheat)                  | 2,910   | : | 29      |
| Rye  | 375     | : | 8       |
| Rye flour (in terms of rye)                      | 368     | : | ---     |
| Barley   | 113     | : | 55      |
| Barley malt (in terms of barley)                 | 110     | : | ---     |
| Oats   | 500     | : | 143     |
| Corn   | 865     | : | 370     |
| Potatoes   | 200     | : | 188     |
| Rice   | 263     | : | 2       |

Dalmatia

The Dalmatian coast is only 10.69 per cent under cultivation. The islands and the mainland are to a large extent planted to vineyards and olive orchards, and there is much meadow land. The agricultural lands have long since passed almost entirely into the hands of small owners. Only a few large estates remained under feudal tenure when on March 11, 1921 an official order directed the completion of the land reform. The following table shows the acreage of cereals harvested in Dalmatia in the specified years.

| Table 20                  |         |          |         |          |         |          |  |
|---------------------------|---------|----------|---------|----------|---------|----------|--|
| Cereal Acreage - Dalmatia |         |          |         |          |         |          |  |
| Cereal Crop               | 1909-13 |          | 1920    |          | 1921    |          |  |
|                           | Acres   | Per cent | Acres   | Per cent | Acres   | Per cent |  |
| Wheat                     | 79,724  | 30.5     | 41,785  | 22.9     | 39,951  | 22.0     |  |
| Rye                       | 18,137  | 6.9      | 10,294  | 5.6      | 5,313   | 2.9      |  |
| Barley                    | 53,000  | 20.3     | 47,767  | 26.2     | 54,557  | 30.0     |  |
| Oats                      | 9,998   | 3.8      | 2,785   | 1.5      | 3,580   | 2.       |  |
| Corn                      | 100,822 | 38.5     | 79,887  | 43.8     | 78,180  | 43.1     |  |
| Totals                    | 261,681 | 100.     | 182,518 | 100.     | 181,581 | 100.     |  |
| Drop from pre-war Average |         |          | 79,163  |          | 80,100  |          |  |

The fact that there has been a drop of thirty per cent in the areas harvested as compared with the pre-war average may be attributed to the fact that a part of the coast and islands were occupied in 1920 and 1921 by Italian military forces. The increase in the barley area harvested is explained by the fact that it brought a better price than wheat. Since corn plays a large part in the customary diet of the Dalmatians its production has remained nearer the pre-war level than has the production of the locally less considered crops of wheat and rye.

The Austrian government before the war included Dalmatia in the District of the South and in this district calculated the wheat and rye norm at 7.07 bushels (191 kilograms) per capita per year. It is hardly probable that Dalmatia consumed so much as this of the bread cereals, because of the extensive use of corn. Therefore for the 1921 wheat and rye balance it has been thought better to employ the Hungarian norm of 6.18 bushels (167 kilograms).

The theoretical deficit as shown by Table 14 was in 1921, 3,200,000 bushels of wheat and rye. Of this less than half should be charged to the 1921 harvest of Yugoslavia. The first, second and third zones of Dalmatia were occupied by the Italians, and the deficits of this area were supplied from Italian sources. During this occupation, other sections of the coast were inaccessible from the central districts of Yugoslavia and the inhabitants were obliged to shift for themselves, in some cases importing their own grain and flour. Through the entire district, just as in the mountains of Montenegro the people were reduced to short rations and the use of substitutes in the place of their customary foods.

#### Slovenia

Slovenia is composed of parts of two former Austrian provinces of Steiermark and Krain, and parts of the two Hungarian counties of Vas and Zala. None of these regions are well adapted to grain culture. The greater part of the district is in forest and there are also extensive vineyards, orchards and pasture lands. Under the old regime there were 230 large estates in Slovenia, aggregating about 469,500 acres of which about 70 per cent was in forests, five per cent meadows and only six per cent cultivated land. These lands were leased to the cultivators and therefore the land reform cannot be considered as accounting for such changes in the character of the cereal crops as are indicated in the following table.



Table 21  
Cereal Acreage - Slovenia

| Cereal Crop               | 1917    |          | 1920    |          | 1921    |          |
|---------------------------|---------|----------|---------|----------|---------|----------|
|                           | Acres   | Per cent | Acres   | Per cent | Acres   | Per cent |
| Wheat                     | 141,262 | 32.3     | 120,150 | 30.3     | 127,795 | 31.3     |
| Rye                       | 92,660  | 21.2     | 69,529  | 17.6     | 72,114  | 17.7     |
| Barley                    | 44,631  | 10.2     | 45,741  | 11.6     | 49,440  | 12.1     |
| Oats                      | 72,482  | 16.6     | 60,339  | 15.2     | 63,411  | 15.6     |
| Corn                      | 86,764  | 19.8     | 100,216 | 25.3     | 95,015  | 23.3     |
| Totals                    | 437,799 | 100.     | 395,975 | 100.     | 407,775 | 100.     |
| Drop from pre-war average |         |          | 41,824  |          | 30,024  |          |

The Slovenians use very little corn as food, but use relatively large quantities of wheat and rye. The increase in the corn acreage indicated in the table above is probably due to the increased numbers of swine in accordance with the tendency throughout this district and north through Austria to turn to meat rather than grain production. It is probable, however, that as soon as the district recovers from the effects of the war, the production of cereals will return approximately to its pre-war normal.

#### Croatia - Slavonia

Count Paul Tleki, in "The Economics of Hungary in Maps" - prepared for the peace negotiations - places the average yearly pre-war wheat and rye deficit of Croatia-Slavonia at 4,200,000 bushels (1,135,000 quintals). Since the war a small area called Medjmuria, occupied by Croats, has been ceded by Hungary to Yugoslavia and added to the district of Croatia-Slavonia. The addition of this area, together with an unusually good harvest in 1921 has cut this large deficit to less than 500,000 bushels. As indicated in the following table there was a slight increase in the wheat area with a heavy reduction in the rye area.

Table 22  
Cereal Acreage - Croatia-Slavonia

| Cereal Crop                     | 1910-14   |          | 1920      |          | 1921      |          |
|---------------------------------|-----------|----------|-----------|----------|-----------|----------|
|                                 | Acres     | Per cent | Acres     | Per cent | Acres     | Per cent |
| Wheat                           | 840,130   | 33.5     | 783,581   | 32.2     | 842,959   | 34.0     |
| Rye                             | 193,511   | 7.7      | 103,510   | 4.3      | 101,857   | 4.1      |
| Barley                          | 161,171   | 6.4      | 152,505   | 6.3      | 153,259   | 6.2      |
| Oats                            | 255,380   | 10.2     | 263,129   | 10.8     | 252,620   | 10.2     |
| Corn                            | 1,055,273 | 42.1     | 1,128,997 | 46.4     | 1,130,512 | 45.6     |
| Totals                          | 2,505,465 | 100.0    | 2,431,722 | 100.0    | 2,481,207 | 100.0    |
| Drop from<br>pre-war<br>average |           |          | 73,743    |          | 24,258    |          |

The increase in the corn area is probably due directly to the land reform and to the increase in peasant farming as compared with estate farming. Both here and in the adjoining district of Voivodina the Hungarian nobles held large estates which, as in Roumania, Russia, Poland and Germany, were operated for the production of a cash crop, usually wheat. In Croatia-Slavonia there were 363 large estates totalling 609,000 acres which came within the scope of the reform. In the beginning of 1921, 215,000 acres were distributed among peasants, and 33,000 acres were allotted to ex-service men who had volunteered to serve against the Central Powers. The remainder of the land was yet to be assigned at the end of 1921.

#### Voivodina

This is the richest wheat district of Yugoslavia. It comprises parts of Temes-Torontal, and Krasov-Severin, these three areas being known as the Banat, a famous grain-producing section. It also includes parts of Baranie, Batschka and Csongrad, the southern and richest portions of the cereal lands formerly included in the Kingdom of Hungary.

In this district 1,147 large estates, totalling 956,000 acres, were subject to the land reform. Of these, 242,000 acres were distributed among farmers and 50,000 acres to volunteers. The owners of these estates were extensive breeders of horses and consequently required large quantities of oats. The small farmers produced swine and therefore grew corn. The re-distribution of the estates is reflected in the following table which shows a decrease in the areas under wheat and oats and an increase in the corn acreage:

Table 23  
Cereal Acreage - Voivodina

| Cereal Crop                     | 1910-11   |          | 1920      |          | 1921      |          |
|---------------------------------|-----------|----------|-----------|----------|-----------|----------|
|                                 | Acres     | Per cent | Acres     | Per cent | Acres     | Per cent |
| Wheat                           | 1,328,244 | 43.3     | 1,113,228 | 41.6     | 1,159,354 | 41.0     |
| Rye                             | 53,186    | 1.7      | 25,323    | 1.0      | 29,635    | 1.0      |
| Barley                          | 115,210   | 3.8      | 106,386   | 4.0      | 104,704   | 3.7      |
| Oats                            | 370,200   | 12.1     | 198,755   | 7.4      | 204,127   | 7.2      |
| Corn                            | 1,201,141 | 39.2     | 1,230,271 | 46.0     | 1,330,317 | 47.0     |
| Totals                          | 3,067,981 | 100.0    | 2,673,963 | 100.0    | 2,828,137 | 100.0    |
| Drop from<br>pre-war<br>average |           |          | 394,018   |          | 239,844   |          |

The crop season of 1920-21 started out unpropitiously with an autumn in 1920 too dry to admit of a normal seeding. Yet in the spring, spring wheat was not seeded to an abnormal extent; so that it is probable that the increased corn area is partly to be accounted for by the low seeding of winter wheat. However, much of the increase in the corn area is permanent, and this will be at the expense of wheat and oats for the reasons above indicated.



In this Northeast district, the crop season was reported to be bad. In some sections little more grain was threshed than enough to recover the seed. The average yields were from 9 to 12 bushels to the acre as compared with pre-war averages of from 19 to 21 bushels per acre. For these reasons the surplus in this district was greatly reduced below the pre-war average, as will be noted from a comparison of Tables 13 and 14.

In Table 14 a new norm has been introduced for Voivodina unlike any other previously employed in this report. As will be shown later some 4,342,000 bushels of wheat and flour in terms of wheat were exported from Yugoslavia from July 1, 1921 through June 30, 1922, most of which came from the 1921 crop. The wheat, with the exception of about 75,000 bushels exported to Greece, was shipped up the Danube direct to Austria, Czechoslovakia, and Germany. This export wheat must have come largely from the Voivodina region. If we employ the old Hungarian norm of 6.18 bushels as the wheat and rye requirement, we would have in this district an excess of only 1,500,000 bushels, which is obviously too small, as over 4,000,000 bushels were actually shipped. But if we put the German, Hungarian and other similar populations on the Hungarian ration of 6.18 bushels, and the Serbian, Slavic and Roumanian populations on the old Serbian ration of 2.25 bushels, we arrive at the norm of 4.51 bushels (122 kilograms) per capita per year for the entire population of Voivodina. Employing this norm we arrive at a theoretical surplus for export of 3,750,000 bushels, which is nearer the true situation than the theoretical surplus obtained by the use of the Hungarian norm. This surplus is, however, only about one-fourth of the average pre-war surplus, even with the use of the 6.18 bushel norm for the earlier period.

Wheat and Rye Balance - Summary.

Referring again to Tables 12 and 13 it will be seen that in 1921 the pre-war annual surplus of 4,000,000 bushels in Yugoslavia as a whole, had become a deficit of 3,600,000 bushels. However, by correcting this table so as to include only half of the deficit in Dalmatia to allow for the Italian occupation, the deficit is reduced to 1,933,000 bushels of wheat and rye.

But although there was this theoretical deficit in 1921, the International Institute of Agriculture at Rome reported exports from Yugoslavia in that year as in the following table. The 1920 exports are shown for comparison.

Table 24 - Cereal Exports from Yugoslavia.  
(Thousands of bushels)

| Cereal                                   | 1920  | 1921   |
|--|-------|--------|
| Wheat .....                              | 1,527 | 1,730  |
| Wheat flour (in terms of<br>wheat) ..... | 1,336 | 1,469  |
| Rye .....                                | 18    | 62     |
| Barley .....                             | 295   | 1,124  |
| Oats .....                               | 83    | 891    |
| Corn .....                               | 5,003 | 12,933 |
| Totals .....                             | 8,267 | 18,264 |

These figures are somewhat lower than those furnished by Mr. K. S. Patton, United States Consul at Belgrade as indicated in Table 25.

Table 25  
Wheat, Flour and Corn Exports from Yugoslavia.  
Thousands of Bushels

| Month           | 1921  |                         | 1922  |                         | 1921   | 1922 |
|-----------------|-------|-------------------------|-------|-------------------------|--------|------|
|                 | Wheat | Flour in terms of wheat | Wheat | Flour in terms of wheat | Corn   | Corn |
| January         | 540   | 313                     | 330   | 150                     | 621    | 2    |
| February        | 158   | 167                     | 54    | 39                      | 576    | 8    |
| March           | 277   | 127                     | 125   | 89                      | 2,478  | 2    |
| April           | 214   | 19                      | 91    | 257                     | 2,369  | 110  |
| May             | 278   | 46                      | 154   | 291                     | 2,334  | 75   |
| June            | 171   | 83                      | 232   | 109                     | 2,434  | 12   |
| First half year | 1,638 | 761                     | 1,036 | 935                     | 11,312 | 209  |
| July            | 42    | 15                      |       |                         | 1,361  |      |
| August          | 71    | 55                      |       |                         | 245    |      |
| September       | 83    | 22                      |       |                         | 1      |      |
| October         | 335   | 82                      |       |                         | 44     |      |
| November        | 749   | 508                     |       |                         | 11     |      |
| December        | 306   | 103                     |       |                         | 11     |      |
| 2nd half year   | 1,586 | 785                     |       |                         | 1,673  |      |

2nd half of 1921 plus 1st half of 1922; wheat 2,622 bushels, flour 1,721, total wheat export for fiscal year 1921-1922 4,343 bushels.



The exportation of over 4,000,000 bushels in the face of a theoretical deficit of nearly 2,000,000 bushels needs some explanation. In the first place the people in the deficit districts, particularly in Montenegro, Bosnia, Herzegovina, Dalmatia, <sup>(1)</sup> Slovenia, and the mountain sections of Old and South Serbia, are not eating as much wheat as formerly. They are still subsisting on a reduced ration more nearly approximating their war allowance. They are also substituting corn meal and potatoes for the bread cereals. However, the chief explanation of this exportation is that the grain movement of Yugoslavia is still following established routes which were in operation before the war. These routes are from Voivodina and North Serbia up the Danube to Austria and Czechoslovakia, or down the river to the Black Sea and thence to Western Europe. The grain of the Voivodina district was concentrated before the war, largely by local banks which had commercial sections especially organized for this business. These banks were affiliated with central banks in Vienna and Budapest. The selling of grain in the northern part of the Austro-Hungarian Empire was done by branches of these same banks in Prague and other cities of the districts now comprised in Czechoslovakia, Austria and Poland. These northern banks sold grain, then placed their orders with the central bank in Vienna or Budapest, which in turn ordered their southern branches to concentrate grain for shipment.

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(1) The American Consul at Belgrade states that buyers from Dalmatia have approached agents of American companies in Belgrade, inquiring how they could import flour from America, since they were unable to obtain supplies from the surplus districts of Yugoslavia.

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When the Empire was partitioned the official association of these northern and southern banks was broken off and the branch banks reorganized under the laws of the respective countries in which they found themselves; but, although the official affiliation was ended, the commercial association continued. The northern banks still sell grain, the southern banks still concentrate grain and ship it north, and the transactions are cleared in Vienna and Budapest, quite as before the war. The trade routes to the west, especially to the Adriatic coast, have not yet been established, and the peoples of the western districts are deprived of their natural supply of grain.

The Kingdom of Yugoslavia, organized as it was out of part of the wreckage of the Austro-Hungarian Empire and the little Kingdom of Montenegro, around the nucleus of the old Kingdom of Serbia, is not yet an economic unit. It has not yet been bound together by railroads and trade routes. It has no financial organizations strong enough to organize the internal trade in grain. Once Yugoslavia is unified economically as well as politically it will not only become self-sustaining in its grain supply, but it will also have both a theoretical and a practical surplus for export.





